in the left ovary. The tumor removed proved upon microscopical examination to be a sarcomatous cyst of a very malignant type. It had developed rapidly and with monthly attacks of local peritonitis. The blood found in the peritoneal cavity was found to be due to a partial rupture in the end of the tumor near the stomach. The presence of the tubes and ovaries caused the parents great consternation.

OPHTHALMOLOGY.

UNDER THE CHARGE OF
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AND
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Practical Experience with Serum-therapy in Ulcus Serpens.—Mayweg (*Archiv f. Augenheil.*, August, 1907, p. 417) reports of 23 cases of ulcus serpens, the pneumococcus was found alone in 22, the diplobacillus in 1. Passive immunization only was employed. The results were excellent in 8, even as to sight; good in 7; in 3 relapse followed decided improvement (the treatment was intermitted too soon); in 4 cases no direct improvement, but even in these the final result was less unsatisfactory than was to be expected from previous methods of treatment alone. The best results are obtained if the serum be employed at the earliest possible moment (10 c.c. in the beginning, three times daily) and continued until healing is complete. The time of treatment is much shorter compared with other methods (fourteen days on the average as against four to five weeks), the restoration a more complete one, cicatrices more transparent, and sight better. The complications following operative treatment do not occur.

Treatment of Myopia.—Sattler (*Archiv f. Augenheil.*, May, 1907, p. 187) maintains the following: (1) Myopia may be prevented from increasing by full correction through the maintenance of an adequate distance for near work and prevention of excessive depression of the visual plane. (2) In youthful subjects the full correction cannot rarely be borne in myopia of 10 D. and higher. (3) If the myopia should nevertheless progress, the increase is as a rule but slight. (4) In high degrees of myopia also it is necessary to maintain the working distance through a suitable correction at 20 to 25 cm. at least. (5) A timely accurate correction seems to protect the myopic eye from the special dangers threatening it. (6) Insufficiency of convergence is, as a rule, satisfactorily relieved by full correction. (7) If muscular asthenopia persists when a sufficient degree of exophoria is present, the setting back of one or both external recti is necessary, or in default of this a suitable prismatic combination. (8) In the highest degrees of myopia (18 D. and upward) in young subjects until about 40, extraction of the lens is to be recommended. (9) Primary extraction is superior to Fukala's method of primary discission for the following reasons: smaller number of operations, earlier result, less danger of loss of vitreous, prevention of increased tension and its consequences, and finally, as it seems lessened, danger of postoperative retinal detachment.

Blindness in Portugal.—MEYER (*Archiv f. Augenheil.*, May, 1907, p. 195) reports that a recent census in Portugal gives 6222 blind and 6320 having but a single eye among the 5,166,841 inhabitants of that country, giving 12 blind in 10,000. The true number is no doubt greater. Of 2000 instances the causes were as follows: congenitally blind, 9.1 per cent.; traumatisms, 8.6 per cent. (mostly from blasts in quarries); smallpox, 7 per cent. The percentage of trauma responsible for the loss of one eye was also very high; 40 per cent. were due to blasts. The remaining most important causes, as gathered from inmates of institutions, were tabes, meningitis, trachoma 3.2 per cent., blennorrhœa (gonorrhœal), myopia, glaucoma 35.17 per cent. Trachoma is endemic in many parts of Portugal, so that 12 per cent. of the patients of the Ophthalmic Institute of Lisbon suffer from this disease. The percentage from glaucoma, 35.17 per cent., is so high for the reason that almost all cases come for treatment when it is too late. Instruction in diseases of the eye is very inadequate (there is but one chair of diseases of the eye in the entire kingdom). The lists showed that about 50 per cent. of the entire number were preventable.

Airol.—FISCHER (*Centralb. f. prak. Augenh.*, August, 1907, p. 229) resumes his report upon this agent published in the December number, 1896, of the same journal, emphasizing the most important property of this remedy, namely, its extremely favorable action in the severest forms of corneal ulceration. The powder is dusted into the eye four times daily after preliminary cocainization. In cases of severe ulcus serpens which continued to progress even after the use of the galvanocautery, the insufflations frequently obviated the necessity of a further application of the cautery or even of the Saemisch operation.

In three cases of gonorrheal conjunctivitis in children in which half of the cornea was in a state of suppuration with threatening perforation, and even when the latter had already occurred, the insufflations, of course without a bandage, were successful in preserving the cornea; strange to say, neither the swelling nor the secretion were influenced.

Pathological Hippus.—AURAND and BREUIL (*Archiv. d'Ophtalmol.*, February, 1907, p. 74) come to the following conclusions upon this subject: (1) The term pathological hippus is used to designate variations in the diameter of the pupil which seem not to depend solely upon ordinary physiological causes, and which are characterized by movements abnormal in frequency or character. It is therefore not always simple exaggeration of a physiological phenomenon. (2) It seems necessary to distinguish several varieties of pathological hippus, according to the following categories: (*a*) Hippus from hyperexcitability of the nervous centres; this variety is a kind of ataxia of the pupil and the only one which can be considered as resulting from exaggeration of the physiological phenomenon. (*b*) Respiratory hippus; this form accompanies the movements of respiration, producing through their effect upon the circulation an inspiratory mydriasis and expiratory myosis. (*c*) Hippus accompanying paralysis of the third nerve in process of convalescence; this is a sort of nystagmus of the pupil, the mechanism of which is the same as that of the nystagmic movements of the extrinsic muscles when these are called into function. (*d*) Rhythmic hippus; this special form seems to be due to a kind of autonomous action of the peripheral centres of the iris. These centres are habitually under the influence of numerous other centres which govern them; the former under certain conditions of isolation suffice to bring about the abnormal movements of the pupil. The latter conclusion is supported by a case reported *in extenso.*

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF
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Physiological and Pharmacological Studies of Magnesium Salts.—The work of Meltzer and his co-workers have shown that the magnesium salts have remarkable action in producing nervous inhibition and anesthesia when injected subcutaneously, intravenously, or when introduced into the spinal canal. In order to study the method of elimination from the body of these salts, MELTZER and LUCUS (*Jour. Exper. Med.*, 1907, ix, 298) have conducted a series of experiments to determine the influence of nephrectomy upon the toxicity of magnesium salts. From these experiments it is concluded that magnesium salts, when introduced subcutaneously, are eliminated to a great extent through the kidneys. After nephrectomy in rabbits the susceptibility to the magnesium salts is increased by about 50 per cent.; so they concluded that the kidneys apparently eliminate about 50 per cent. of the injected salts. It was found that an injection of magnesium sulphate was more toxic immediately after nephrectomy had been performed than when it was introduced eighteen or more hours after the operation. This is probably due to the development of vicarious paths sufficient for elimination of a fraction of the salts. The cumulative effect of magnesium salts in nephrectomized rabbits was very striking. The effect of several subminimum doses was equal to the effect produced by the sum of these doses given at a single injection, while in rabbits in which nephrectomy had not been performed the effect was not cumulative because apparently the salts are eliminated by the kidneys.

The Pathogenesis of Gallstones.—KRAMER. (*Jour. Exp. Med.*, 1907 ix, 319) points out that the present theories of gallstone formation do not explain the process by which cholesterin and calcium salts, which are normally soluble in bile, are precipitated in cholelithiasis. In order to determine whether bacteria played a part in this precipitation, typhoid and colon bacilli and staphylococci were grown in a carefully filtered mixture of equal parts of bile and alkaline peptone solution. All of the organisms grow well in this medium. The staphylococci did not produce any change in the reaction of the medium, nor did any precipitation occur. With both varieties of bacilli, however, the medium became cloudy and in about four weeks a very well-marked, closely packed, semisolid mass was seen at the bottom of the tubes. The constituents of gallstones were found microscopically in this sediment. The bile seems to have a markedly preservative action on the typhoid and colon bacilli, thus showing a parallel to the fact that these bacilli remain alive a long time in gallstones. Kramer believes that these experiments indicate very clearly that gallstone formation is due to chemical decomposition of the bile, the direct result of the growth of microörganisms therein. He considers it a process similar to the formation of phosphatic urinary stones.

The Muscular Connection between the Auricle and the Ventricle (His' Bundle) in Normal Hearts and in Adams-Stokes Disease.—FAHR (*Virch. Arch.*, 1907, clxxxviii, 562) has studied the heart in three cases of Adams-Stokes disease with particular reference to the condition of the bundle of His. In the first case the bundle was longer than it is in normal hearts, and since the sections did not include the terminal portions, no definite conclusions could be drawn as to its complete integrity. In the second case a gumma was found in the ventricular septum which extended to the annulus fibrosus. In this region the fibers of the bundle, as they emerged from the annulus fibrosus, were completely destroyed by the syphilitic infiltration. In the third case a fibrous scar was found at the point at which the bundle divides. The scar tissue involved the left branch, but at this point the right branch was not involved. The fibers of the bundle running to the right ventricle however, were, destroyed by a fibrous thickening at the point at which they enter the musculature of the right ventricle. Fahr, from a study of normal hearts, reached much the same conclusion as to the structure and course of this bundle of muscle fibers as did Tawara. He could not, however, show that the termination of the fibers in man was the same as Tawara has described in the sheep. In the sheep it can be readily demonstrated that the bundle ends in the complicated network of Purkinje fibers which lie directly beneath the endocardium and run to all parts of the ventricle, whereas Fahr states that in man the bundle does not connect with any meshwork of fibers analogous to the Purkinje fibers of the sheep, but terminates in the muscular wall of the ventricle.

In the fœtus the bundle can be recognized early in the development of the heart. In a fœtus 16 cm. in length the bundle could readily be made out, though the branching was not seen in such young embryos. In the fœtus there is no difference between the histological structure of the fibers of the bundle and of the heart muscle. In the adult the histological differences are very evident, for the fibers of the bundle retain their fœtal character.

Studies in Experimental Alcoholism.—Except for the anatomical changes resulting from the excessive use of alcohol, pathological anatomy has not been able to shed any light upon the effects on man of moderate amounts of alcohol. As regards the general effects of alcohol upon metabolism, it was formerly thought that alcohol retarded the oxidative processes of the body. Later it was held that alcohol acts as a food, and is used in place of carbohydrates, fat, and even proteids, which are thus stored up in the body. Reid Hunt (*Bull. Hygienic Laboratory*, 1907, No. 33), in a series of interesting experiments, is the first to show experimentally that profound modifications of certain physiological processes may result in a comparatively short time from doses of alcohol so small that indications of intoxication are absent. In these experiments the susceptibility of mice, which had been fed upon alcohol, to acetonitril was studied. Acetonitril, or methyl cyanide, is changed in the body into hydrocyanic acid, which unites with sulphur to be eliminated as sulphocyanic acid. The poisonous effects of acetonitril are thus due to the formation of hydrocyanic acid. From a series of experiments upon analogous substances Hunt formed the hypothesis that hydrocyanic acid is liberated from acetonitril through oxidation of the methyl group. In a long series of experiments it was shown that animals to which alcohol had been administered for some time acquire an increased susceptibility to acetonitril. This occurs after the administration of amounts of alcohol far too small to cause indications of intoxication, and from doses which almost certainly cause no anatomical lesions. This increased susceptibility is not due to a general "lowering of resistance," but is associated with a distinctly increased power of the body to break up the molecule of acetonitril. This is shown by the marked increase of sulphocyanate in the urine of the animals to which alcohol had been fed. This increased breaking up of the acetonitril depends upon the increased powers of oxidation on the part of the body. It is believed that these experiments afford clear experimental evidence for the view that extremely moderate amounts of alcohol may cause distinct changes in certain physiological functions, and that these changes may, under certain circumstances, be injurious to the body. The results also afford further evidence that in some respects the action of alcohol as a food is different from that of carbohydrates, and, finally, that in all probability certain physiological processes in "moderate drinkers" are distinctly different from those in abstainers.

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